

CLAIMS

1. A multi-throttle apparatus comprising a first throttle body that defines a plurality of intake passages corresponding to arranged cylinders on one side of a V-type engine respectively and a second throttle body that defines a plurality of intake passages corresponding to arranged cylinders on the other side thereof respectively, a plurality of throttle valves disposed respectively in said plurality of intake passages, a first throttle shaft that supports said plurality of throttle valves disposed in said first throttle body to be simultaneously opened/closed, a second throttle shaft that supports said plurality of throttle valves disposed in said second throttle body to be simultaneously opened/closed, a drive means that rotatably drives said first throttle shaft and said second throttle shaft, and a return spring that returns said throttle valves to a predetermined angular position, characterized in that:

said drive means comprises a motor disposed between said first throttle shaft and said second throttle shaft, and a gear train that transmits a driving force of said motor to said first throttle shaft and second throttle shaft, and

said first throttle body and said second throttle body include bearings which respectively support said first throttle shaft and said second throttle shaft in mutual intervals between said plurality of intake passages.

2. The multi-throttle apparatus according to claim 1, characterized in that said gear train is disposed on ends on the same side of said first throttle shaft and said second throttle shaft.

3. The multi-throttle apparatus according to claim 1, characterized in that said gear train comprise a gear train that transmits the driving force of said motor to one end of said first throttle shaft, and a gear train that interlocks said second throttle shaft with said first throttle shaft on the

other end of said first throttle shaft.

4. The multi-throttle apparatus according to any one of claims 1 to 3, characterized in that:

said throttle body comprises a plurality of throttle bodies that respectively define said plurality of intake passages, and are connected to each other in the direction in which said throttle shaft extends, and

said plurality of throttle bodies comprise an engagement section that engages said bearing.

5. The multi-throttle apparatus according to claim 4, characterized in that said plurality of throttle bodies are connected with each other via a spacer that adjusts the mutual separated distance.

6. The multi-throttle apparatus according to claim 5, characterized in that said spacer is formed so as to fix said bearing to said throttle body.

7. The multi-throttle apparatus according to any one of claims 1 to 6, characterized in that said plurality of throttle valves are formed such that the cross section thereof tapers off to the tip thereof as departed from the rotation center.